

Health Officer

*Community Health Center
Administrator*

Physician

Dentist

Public Health Nurse

Physician Assistant

Certified Nurse Midwife

Environmental Specialist

Statistician

Epidemiologist

Nutritionist/Dietician

Community Health Educator

*Outreach Worker/Case
Coordinator*

EXPLORING PUBLIC HEALTH CAREER PATHS

An Overview of Public Health
and Career Opportunities



NATIONAL
ASSOCIATION OF
COUNTY & CITY
HEALTH OFFICIALS



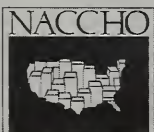
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October 1996

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1 Introduction

During their training, health professions students are exposed to many private practice settings. However, a number of excellent practice opportunities exist in the public sector, within the scope of public health, and it is important for students to explore these options during the course of their training.

The mission of public health, as defined by the Institute of Medicine, is “the fulfillment of society’s interest in assuring the conditions in which people can be healthy.”¹ Public health consists of a system of services and activities that range from primary care services provided to individuals to population-based preventive health activities directed at entire communities. Public health is practiced in a number of different settings, including local health departments and community and migrant health centers.

With support from the Health Resources & Services Administration (HRSA), Bureau of Primary Health Care (BPHC), the National Association of County and City Health Officials (NACCHO) developed this document in an effort to orient health professions students to both the population-based and primary care aspects of public health.

NACCHO is dedicated to improving the health of people and communities by assuring an effective local public health system. The mission of the Health Resources and Services Administration, BPHC, is to increase access to comprehensive primary and preventive health care and to improve the health status of underserved populations. To fulfill their respective missions, both organizations are interested in recruiting health professions students to the field of public health.

This document briefly reviews the history of local health departments and community and migrant health centers, provides an overview of the structure and function of these agencies, summarizes health professions job descriptions, and gives examples of health professions student internships in public health agencies. Although other types of public health agencies exist, this document focuses on local health departments and federally qualified health centers (FQHCs), with an emphasis on community and migrant health centers.

2 The History of Public Health²

As public health has grown and developed over the last 150 years, two factors have played significant roles in the process: scientific information about the cause and prevention of disease, and acceptance that disease control is both possible and a matter of public responsibility. As disease control methods were refined and interventions were developed, public organizations and agencies were formed to implement these interventions and protect the public's health. Earlier in history, the lack of scientific information about the cause and control of diseases fostered a sense of powerlessness; therefore, little was done to take public action against them.

In the latter part of the nineteenth century, scientific knowledge about the causes and prevention of many diseases allowed many major contagious diseases — including tuberculosis, diphtheria, typhoid and yellow fever — to be effectively controlled for the first time. Identification of pathogens causing these diseases and the development of interventions such as immunization and water purification made control and prevention of many diseases possible. The first public agency for health, the New York City Health Department, was created in

1866. By the end of the century, several boards of health and local health departments had been established nationwide. Initially responsible for sanitary activities, these agencies gradually expanded into laboratory science and epidemiology.

In the early twentieth century, some health departments expanded their services to include clinical care and health education. As a result, public responsibility for health expanded to include both environmental sanitation and individual health care, and the public health orientation shifted from disease prevention to the promotion of overall health.

The need for primary care services for vulnerable populations steadily increased during the twentieth century. Although some health departments offered personal health services, these alone could not meet the escalating demand for services. To help alleviate this growing need, community centers (CHCs) were developed as part of the Johnson Administration's "War on Poverty." Established through Section 330 of the Public Health Service Act, CHCs are private, nonprofit organizations formed by community members to provide culturally competent primary health care services. The services are accessible to clients without regard to their ability to pay. Through this program, the federal government provides assistance to community-based organizations in

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operating these programs. Service areas or populations federally designated as “medically underserved” are eligible for this assistance. In addition to providing direct care to patients, community health centers also play a major role in promoting the public’s health through activities addressing broader community health issues.

This infrastructure of federally-supported systems of coordinated medical, social, and support services also includes migrant health centers, health care for the homeless programs, and public housing primary health care programs, all of which are run by BPHC. These programs greatly strengthen the public’s health through increasing access to high-quality, cost-effective services for the underserved and vulnerable populations.

Public health has provided the foundation for the many significant improvements in both health and life expectancy in the United States over the past 50 years. Population-based strategies — which address the health status of entire populations rather than individuals — have helped to prevent disease and injury and have contributed to a decline in heart disease and stroke, smoking, infectious disease,

and motor vehicle and workplace injuries. Other public health successes include decreases in tooth decay due to water fluoridation, reductions in childhood blood lead levels, and the virtual elimination of polio. Today, public health also addresses such issues as teenage pregnancy, violence, substance abuse, and sexually transmitted diseases, as well as more recent infectious diseases, including HIV/AIDS, drug-resistant strains of tuberculosis, and hantavirus.

Currently, all states are involved in some way in providing sanitation, laboratory investigation, vital statistics

Every \$1 spent on immunizations for measles, mumps, and rubella saves \$14 in treatment of vaccine-preventable disease.

collection, environmental regulation, epidemiology, vaccine administration, maternal and child health services, mental health services, and health care for low-income

populations. How these programs are administered (i.e., the structure and functions of local health departments, community and migrant health centers, and other agencies) varies greatly both among states and within states.

While public health and medical communities often address the same health concerns, they focus on different stages of illness and injury. Generally, public health protects and promotes health and prevents disease in the population served. In particular, public

health is positioned to promote the avoidance or reduction of the need for certain medical services, while the medical focus lies in the treatment of illness and injury once it has occurred. In combination, these roles are critical to creating a healthy nation.

3 Defining Public Health

A variety of agencies provide a number of services and functions that contribute to the public's health, making it difficult to comprehensively and articulately define public health.

One definition of public health is the "science and art of preventing disease, prolonging life, and promoting physical and mental health through assessment, policy development and assurance."³ More simply, public health agencies promote and protect the health of entire populations, rather than particular individuals.

A major national initiative to develop clear, understandable terms that describe public health functions to individuals within and outside of the public health community was undertaken by the Institute of Medicine (IOM) in 1980s. The resultant report, *The Future of Public Health*, by the IOM's Committee for the Study of the Future of Public Health, cited three "core public health functions,"⁴ as follows:

► **Assessment:** The committee recommends that every public health agency regularly and systematically collect, assemble, analyze, and make available information on the health of the community, including statistics on health status, community health needs, and epidemiologic and other studies of health problems.

► **Policy Development:** The committee recommends that every public health agency exercise its responsibility to serve the public interest in the development of comprehensive public health policies by promoting use of the scientific knowledge base in decision-making about public health and by leading in developing public health policy. Agencies must take a strategic approach, developed on the basis of a positive appreciation for the democratic political process.

► **Assurance:** The committee recommends that public health agencies assure their constituents that services necessary to achieve agreed upon goals are provided, either by encouraging actions by other entities (private or public sector), by requiring such action through regulation, or by providing services directly. . . The committee recommends that each public health agency involve key policymakers and the general public in determining a set of high-priority personal and community-wide health services that governments will guarantee to every member of the community.

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This guarantee should include subsidization or direct provision of high-priority personal health services for those unable to afford them.

These core functions have been widely promoted within the public health community since the report was published and have served as an excellent foundation. The next major effort to further detail the critical role of public health in promoting health and preventing disease was to expand the list to eight core functions, which were used in legislative efforts during the 103rd and 104th sessions of the United States Congress. They include the following:

- ▶ Investigation/control of diseases and injuries
- ▶ Activities to protect the environment
- ▶ Accountability and quality assurance
- ▶ Data collection and analysis
- ▶ Public information and education
- ▶ Public health laboratories
- ▶ Training and education
- ▶ Leadership, policy development, and administration.

Water fluoridation, a highly effective means of preventing tooth decay, costs about 50 cents per person per year, while the cost of filling one cavity is about \$40.

To further define and clarify the essence of public health activities, a workgroup convened by the U.S. Public Health Service in 1994 developed "Public Health in America,"

which outlines the vision, mission, and purpose of public health, in addition to the ten "essential public health services" (see next page). This represents the most recent national effort to promote a common vocabulary regarding public health.

Resources

Core Public Health Functions, NACCHO, July 1993. To order single, free copy, fax request to Anissa Alexander at NACCHO, (202) 783-1583.

Core Public Health Functions, Washington State, 1993. To order a single, free copy, fax request to Anissa Alexander at NACCHO, (202) 783-1583.

The Future of Public Health, Committee for the Study of the Future of Public Health, Division of Health Care Services, Institute of Medicine, 1988. The cost is \$24.95, plus \$4.00 shipping and handling. Send a check payable to the "National Academy Press," 2101 Constitution Avenue, NW, Box 285, Washington, DC 20055, or call (202) 334-3313.

PUBLIC HEALTH IN AMERICA

Vision: Healthy people in healthy communities.

Mission: Promote physical and mental health and prevent disease, injury, and disability.

Purpose:

- ▶ Prevents epidemics and the spread of disease
- ▶ Protects against environmental hazards
- ▶ Promotes and encourages healthy behaviors and mental health
- ▶ Responds to disasters and assists communities in recovery
- ▶ Assures the quality and accessibility of health services

Essential Public Health Services:

- ▶ Monitor health status to identify and solve community health problems
- ▶ Diagnose and investigate health problems and health hazards in the community
- ▶ Inform, educate and empower people about health issues
- ▶ Mobilize community partnerships and action to identify and solve health problems
- ▶ Develop policies and plans that support individual and community health efforts
- ▶ Enforce laws and regulations that protect health and ensure safety
- ▶ Link people to needed personal health services and assure the provision of health care when otherwise unavailable
- ▶ Assure a competent public health and personal health care workforce
- ▶ Evaluate effectiveness, accessibility, and quality of personal and population-based health services
- ▶ Research for new insights and innovative solutions to health problems.

Source: Essential Public Health Services Work Group of the Core Public Health Function Steering Committee

Membership:

American Public Health Association
Association of State and Territorial Health Officials
National Association of County and City Health Officials
Institute of Medicine, National Academy of Sciences
Association of Schools of Public Health
Public Health Foundation
National Association of State Alcohol and Drug Abuse Directors
National Association of State Mental Health Program Directors
U.S. Public Health Service

4 Defining Primary Care

The IOM Committee on the Future of Primary Care convened to develop a report entitled, *Defining Primary Care: An Interim Report* (1995), in which a new definition of primary care was introduced. The new definition reflects changes that have occurred since 1978 in how primary care is delivered, by whom, and in what settings. The new definition has many implications for clinician reimbursement, education, and research.

The committee defined primary care in the following way:

Primary Care is the provision of *integrated, accessible, health care services* by *clinicians* who are *accountable* for addressing a large *majority of personal health care needs*, developing a *sustained partnership* with *patients*, and practicing in the *context of family and community*.

An explanation of each term or phrase in italics follows, as defined in the IOM report.

Integrated encompasses the provision of *comprehensive, coordinated, and continuous* services that provide a seamless process of care. Integration combines events and information about events occurring in disparate settings and levels of care, and over

time, preferably throughout the life span.

Comprehensive care addresses any health problem at any given stage of a patient's life cycle.

Coordinated care ensures the provision of a combination of health services and information to meet patient needs. It also refers to the connection between, or the rational ordering of, those services, including the resources of the community.

Continuous care refers to care over time by a single individual or team of health professionals ("clinician continuity") and to effective and timely communication of health information such as events, risks, advice, and patient preferences ("record continuity").

Accessible care refers to the ease with which a patient can initiate an interaction with a clinician for any health problem (e.g., by phone or at a treatment location) and includes efforts to eliminate barriers such as those posed by geography, administrative hurdles, financing, culture and language.

Health care services refer to an array of services that are performed by health care professionals or under their direction for the purpose of promoting, maintaining, or restoring health. The term applies to all care settings (hospi-

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tals, nursing homes, physicians' offices, intermediate care facilities, schools, and homes).

Clinician means an individual who uses a recognized scientific knowledge base and has the authority to direct the delivery of personal health services to patients.

Accountable applies to primary care clinicians and the systems in which they operate. These clinicians and systems are responsible to their patients and communities for addressing a large majority of personal health needs through sustained partnerships with patients in the context of family and community. Accountability addresses: (1) quality of care, (2) patient satisfaction, (3) efficient use of resources, and (4) ethical behavior.

Majority of personal health care needs refers to primary care clinicians' scope of responsibility. Primary care clinicians address all problems that patients bring — unrestricted by specialty area — and have the appropriate training to manage a large majority of those problems, involving other practitioners for further evaluation or treatment when necessary. Personal health care needs include the physical, mental, emotional, and social concerns of an individual.

Sustained partnership refers to the relationship established between the

patient and clinician, which is based on mutual trust, respect, and responsibility.

Patient means an individual who interacts with a clinician either because of real or perceived illness or for health promotion and disease prevention.

Context of family and community refers to an understanding of the patient's living conditions, family dynamics, and cultural background. Community refers to the broader population served. It can refer to a geopolitical boundary (city, county or state), members of a health plan, or neighbors who share values, experiences, language, religion, culture, or ethnic heritage.

Resources

Defining Primary Care: An Interim Report, Committee on the Future of Primary Care. Single, free copies available. To order, contact Anita Zimbrick, Division of Health Care Services, 2101 Constitution Avenue, NW, Washington, DC 20418.

5 Description of Public Health Agencies

Although their respective roles vary, both local health departments and community and migrant health centers provide some combination of the essential public health services.

Appropriate, high-quality medical treatment for individuals is critical; medical care alone does not protect the public's health. Just as a doctor provides assessment, diagnosis, and treatment to promote the health of an individual, local health departments assess the health status of the entire community, investigate and diagnose health problems and environmental hazards, and treat unhealthy conditions through the provision of individual and population-based services. They also enforce laws and regulations that protect the community's health. In addition, community and migrant health centers provide comprehensive services to people who are unable to obtain care elsewhere. These services and functions are a critical complement to medical care.

While community and migrant health centers across the country have fairly uniform structures and provide very similar services, local public health departments and the services they provide vary widely. This section provides descriptions of the nation's

local health departments and community and migrant health centers.

Local health departments⁵

Structure

The vast majority of local health departments are governmental agencies and most are overseen by local government. In approximately ten states, however, local health departments are branches of the state health department and are, thus, agencies of state government. In a few exceptional cases, local health departments have recently been privatized. Nevertheless, the nation's health departments all began as governmental agencies with legal responsibility for the protection of the community's health.

Local boards of health generally serve in an oversight and advisory role for programs, staffing, and fiscal budgets for local health departments. More than 23,000 citizens serve on 3,270 local boards of health in 40 states. In many states they have quasi-legislative and -judiciary responsibilities relative to adopting and enforcing public health regulations within their jurisdictions.

NACCHO identified 2,888 local health departments across the country, which are defined as "administrative or service units of local or state government concerned with health and carrying some responsibility for the health of a jurisdiction smaller than the state."

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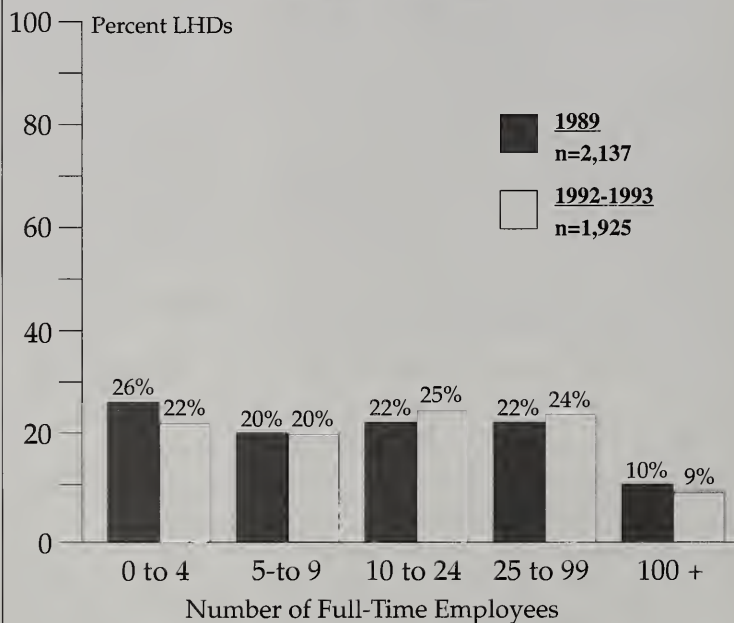
There are different types of jurisdictions. Overall, 80 percent of all local health departments are related to a county structure in some way. More than half of local health departments (56 percent) serve county jurisdictions; 13 percent serve combination city/county jurisdictions; and 11 percent serve multi-county jurisdictions. Eleven percent serve a town/township; seven percent serve city jurisdictions, and two percent serve "other" jurisdictions.

The majority of local health departments — 66 percent — serve relatively small populations (less than 50,000). Only four percent serve populations of 500,000 or greater. The remaining local health departments are fairly evenly divided into the following categories: 16 percent serve populations between 50,000 and 99,999, and fourteen percent serve populations between 100,000 and 499,999.

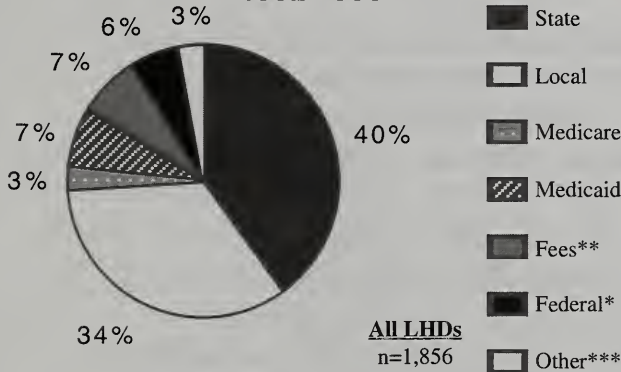
The number of full-time personnel in local health departments varies widely, with only nine percent having 100 or more employees. Table A displays these figures. Although no

specific data regarding the types of employees in health departments are available, staffers represent a variety of disciplines, including physicians, nurses, nutritionists, sanitarians, statisticians, administrators, social workers, and clerical workers.

Table A — U.S. Local Health Departments by Number of Full-Time Employees 1989 vs. 1992-1993



**Table B — U.S. Local Health Department Funds by Source
1992-1993**



*State includes pass throughs from federal resources

**Fees: patient personal fees, regulatory fees

***Other: private foundations, private health insurance, other

Funding for local health departments comes primarily from local and state funds, although federal funds, Medicaid, Medicare, patient and regulatory fees, and other sources also contribute varying amounts. See Table B for figures.

Services

As the sole agency charged with protecting the health of the public, local health departments provide a wide variety of population-based, personal, and environmental health services. All people residing within a local health department's jurisdiction receive its services. In addition, an estimated 40 million people nationwide receive personal health services from local health departments each year.

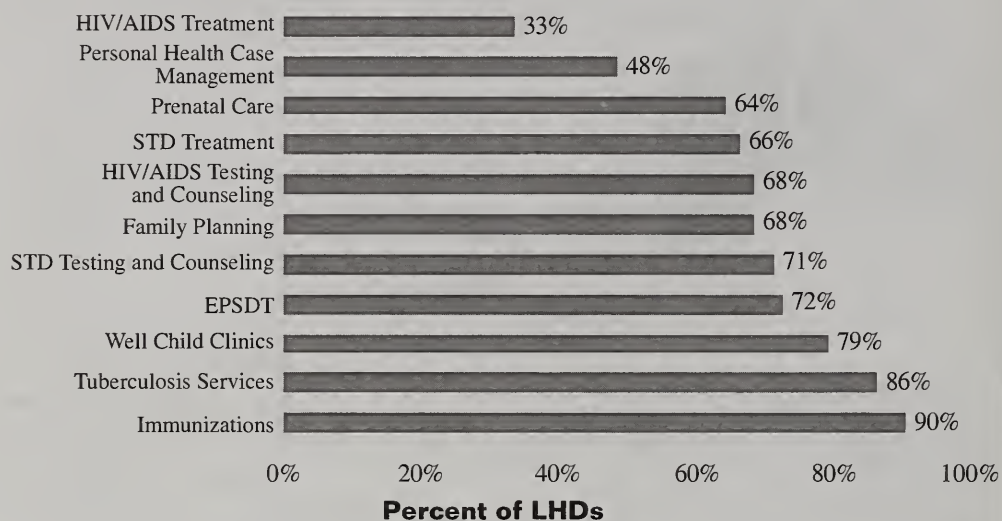
The composition of services provided varies widely and depends on a number of factors, including the following: service needs identified by the community; the presence of available services and agencies in the community; available funding; and history.

The variety in local health departments makes it very difficult to portray a typical health department. As the adage

goes, "If you've seen one local health department, you've seen one local health department." However, data from NACCHO's 1992-1993 *National Profile of Local Health Departments* describe the range of activities.

Most local health departments provide some personal health services — listed in Table C (following page) — either directly or by contract, serving 40 million people nationwide each year. Because local health departments are located in nearly every county in the country, it is difficult to generalize about the populations served by personal health services, although the majority are for low-income women and children.

Table C — U.S. Local Health Departments Reporting Activity* in Selected Personal Health Service Areas 1992-1993



EPSDT - Early and Periodic Screening, Diagnosis, and Treatment

STD - Sexually Transmitted Disease

HIV/AIDS - Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome

*Provision of services directly or through contractual arrangement.

Most local health departments also directly provide or contract to provide the environmental health services listed in Table D. In addition to those services listed, 80 percent of local health departments provide restaurant inspections and/or licensing, and more than half — 56 percent — offer food and milk control inspections and/or licensing.

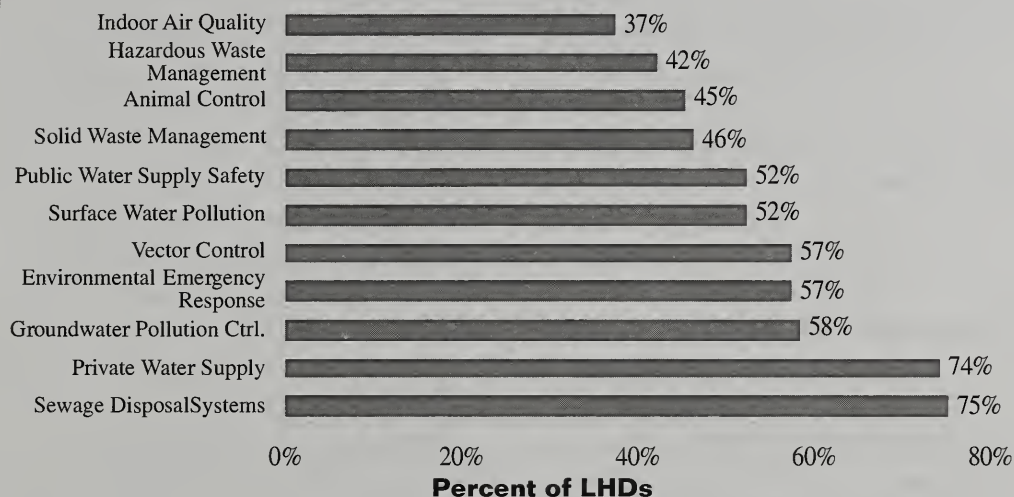
Local health departments are located in nearly every city and county across the country. The services they provide — both individual and population-based — are vital to ensuring the health of the community.

Future

Over the past few years, local health officials have been examining what their role will be in the 21st Century. In response to the need for a guide for local health departments, NACCHO developed *Blueprint for a Healthy Community: A Guide for Local Health Departments* in 1994. The timing of the *Blueprint* coincided with several events and influences, including: the national health care reform debate of 1994, increased attention to “core public health functions,” and the changing role of government.

While examining the most appropriate role of local health departments in

Table D — U.S. Local Health Departments Reporting Activity* in Selected Environmental Service Areas 1992-1993



*Provision of services directly or through contractual arrangement.

the future, NACCHO quickly adopted a wider perspective, asking the fundamental question, "What does it take to create and maintain a healthy community?" It is in this context that the health care system must be developed and analyzed.

In the *Blueprint*, NACCHO identified the following as ten essential elements that must be performed by the health system in close coordination with other community systems to ensure a healthy community:

1) conducting community diagnosis: collecting, managing, and analyzing health-related data for the purpose of information-based decision making;

2) preventing and controlling epidemics: investigating and containing diseases and injuries;

3) providing a safe and healthy environment: maintaining clean and safe air, water, food, and facilities;

4) measuring performance, effectiveness, and outcomes of health services: monitoring health care providers and the health care system;

5) promoting healthy lifestyles: providing health education to individuals and communities;

6) laboratory testing: identifying disease agents;

7) providing targeted outreach and forming partnerships: assuring access to services for all vulnerable populations and assuring the development of culturally appropriate care;

8) providing personal health care services: treating illness, injury, disabling conditions and dysfunction (ranging from primary and preventive care to specialty and tertiary treatment);

9) research and innovation: discovering and applying improved health care delivery mechanisms and clinical interventions;

10) mobilizing the community for action: providing leadership and initiating collaboration.

The *Blueprint* suggests that the role of local health departments is the following: to provide some of these elements directly; to assure that the remaining activities are provided by others; and to assure that the quality and outcomes of activities are acceptable. Although the role of local health departments in direct provision of essential elements will vary over time and place, they consistently have a unique oversight function, which distinguishes them in the health system.

NACCHO has adopted the *Blueprint* as its vision for the future of local health departments and a number of local health departments have already incorporated this perspective into their planning.

Community and Migrant Health Centers

The Health Resources and Services Administration, Bureau of Primary

Health Care (BPHC), provides funding to community and migrant health centers (C/MHCs). In order to qualify for funding, C/MHCs must meet certain criteria, as discussed throughout this section. It is also important to note the full spectrum of federally qualified health centers, which include: health care for the homeless centers, health services for residents of public housing centers, urban Indian and tribal health clinics, and FQHC “look-alike” organizations.

C/MHC Structure

There are nearly 643 C/MHCs in the United States. They deliver preventive and primary health care to more than 7.6 million people at approximately 1,650 local clinic sites in rural and urban communities. Approximately 50 percent of C/MHC clients live in isolated rural areas, while another 50 percent live in economically depressed inner city communities that are increasingly removed — both geographically and culturally — from their surrounding neighborhoods. Approximately 60 percent of C/MHC patients are minorities. Nearly all clients’ family incomes are below 200 percent of the federal poverty level (\$28,700 for a family of four in 1994), and 40 percent are completely uninsured. More than one-third are Medicaid recipients. Only 12 percent of health center clients have private insurance. Forty-four percent of clients in federally funded C/MHCs are under the age of 18.

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Thirty percent are women of child-bearing age, of whom nearly one in 10 are pregnant.

By law, CHCs must serve medically underserved areas (MUAs) and/or populations. In defining medical underservice, a formula accounting for poverty levels, physician supply, infant mortality rates, and other patient demographic information evidencing need is utilized. C/MHCs must follow several additional guidelines, including the following:

1) offering care to anyone seeking it. This is usually accomplished through a sliding fee scale payment system, where patients pay according to their income.

2) establishing a board of directors, of which at least 51 percent must use the health center's services. The Board sets the policy for the center in response to the community's needs.

3) striving to meet the health needs of the entire community in addition to the individual patient. They must continually evaluate the health status of the community and work to provide services and implement programs accordingly. Such programs include those addressing: improved immunization rates, cancer risk reduction, smoking cessation, etc.

4) updating their quality assurance programs and health care plans in

response to annual community needs assessments and reporting such outcome measures as immunization rates, low birth weight reduction, and hospital admission and length of stay to the Public Health Service.

Due to these requirements, C/MHCs as a group tend to be more similar in structure than are local health departments.

Each C/MHC hires an administrator to manage the daily, non-clinical affairs. C/MHC staff are teams of board certified or board eligible physicians, physician assistants, nurses, nurse practitioners, dentists, social workers, and other health professionals.

In rural areas, where it is much more difficult to attract providers, physicians are often family practitioners who provide the full scope of care. Larger urban centers are usually staffed with interdisciplinary teams of internists, pediatricians, and obstetricians. All physicians are required to have hospital admitting privileges. Nationally, C/MHCs range in size from one physician serving several thousand patients to groups of physicians and other practitioners serving major metropolitan areas.

C/MHCs, which are non-profit corporations, apply for a "start-up" grant from BPHC to finance the establishment of a medical center. Once up and running, the centers

apply for annual grant assistance to help offset the cost of caring for those unable to pay the full cost of their medical care, as well as for essential enabling services (i.e., translation, transportation, outreach, case management) that improve the delivery of the services to and the health status of underserved populations. In addition to federal funds and third party reimbursement, C/MHCs may also be supported by state and local funds.

Services

Typical services provided by a C/MHC may include the following:

- ▶ primary health care for all ages,
- ▶ case management,
- ▶ disease screening and control,
- ▶ acute care,
- ▶ health education,
- ▶ diagnostic laboratory,
- ▶ substance abuse counseling,
- ▶ x-ray,
- ▶ family planning and obstetrics,
- ▶ emergency (on a limited level, often to stabilize a patient for transportation),
- ▶ dental,
- ▶ pharmacy,
- ▶ transportation,
- ▶ outreach, and
- ▶ translation

Additionally, many health centers offer evening and weekend hours for working families, provide care at multiple sites, use mobile clinics to reach rural patients, and employ multilingual staff. All health centers have 24-hour systems for after-hour calls and emergencies. With their provision of comprehensive primary care, C/MHCs are a vital part of the nation's "safety net" for vulnerable populations.

Future

Obtaining federal funding for C/MHCs has become an increasingly difficult task. Due to limited federal resources, only a few new start grants have been awarded annually. Shrinking federal resources have made the extent of future funding uncertain.

Nevertheless, C/MHCs generally provide comprehensive primary care at a 25-30 percent lower cost than other providers serving similar populations. The C/MHC model has proven to be very successful in reaching and serving vulnerable populations, and it seems likely these entities will continue to be supported.

Resources

America's Health Centers: Value in Health Care: A Report on the Cost-Effectiveness of Health Centers. Single, free copies available. To order, contact the National Association of Community Health Centers, 1330 New Hampshire Avenue, NW, Suite 122, Washington, DC 20036, (202) 659-8008.

An Overview of Public Health and Related Career Opportunities

Blueprint for a Healthy Community: A Guide for Local Health Departments, NACCHO, July 1994. Single copies available free of charge. Additional copies are \$5.00 each. To order, fax a request to Anissa Alexander at NACCHO, (202) 783-1583.

6 PUBLIC HEALTH PROFESSIONALS⁶

Local health departments and community and migrant

health centers offer a wide range of professional opportunities for providers. This section describes the most common professional positions

available in health departments and health centers. The descriptions are intended to give a broad overview of roles and responsibilities of each position. A brief overview of the National Health Service Corps (NHSC) is also provided. NHSC places public health professionals in underserved areas.

Health Officer

The health officer of a local health department plans, develops, and administers the activities of the department and its component programs. The health officer serves as the chief administrative officer, with responsibility for the health department's public health services provision, organizational goals and objectives, and organizational structure and focus. The

health officer must ensure comprehensive and cooperative health services in the community served and prepare program plans and budgets to be presented to the local board of commissioners or other governing body. Finally, the health officer interprets health needs and risks in the community, making recommendations to elected officials and the general public on any actions needed to protect and promote health and prevent disease.

Every dollar spent on smoking cessation for pregnant women saves \$4.40 in tobacco-related health costs of mothers and their babies.

In 21 states, local health department directors are required to have a valid license to practice medicine in the state. However, 22 states allow non-

physicians to act as local health directors if they have public health or administrative experience. Five states have no formal requirements. No data are available on two states' requirements.⁷

Community and Migrant Health Center Administrator

The community and migrant health center administrator plans, promotes, and supervises community health services in designated areas. In doing so, the administrator surveys area health needs, evaluating the effectiveness of programs in meeting those needs; coordinates services with those of other agencies and private practitioners; provides medical consultation services to private practitioners and other providers; establishes policies,

procedures, and evaluation mechanisms for program services; keeps informed of financial resources available from state, federal, and other agencies for special programs or services that would benefit the community, district, or state; manages the budget; reports regularly to the appointed board of health on department operations, needs, and recommendations; meets regularly with division directors to determine if objectives are being met, and to make changes if necessary; directs research and investigation into public health problems; maintains close contact with community service organizations, local, state, and federal agencies, professional organizations, and the media to coordinate and promote public health services; and directs the enforcement of all state public health laws.

Physician

The physician in a local health agency may be assigned a specific area of practice, perhaps serving in a specialized clinic, such as a sexually transmitted disease clinic. However, more frequently, the physician in a local public health agency is responsible for providing primary care services to patients — both medical and diagnostic — and patient education in preventive health care principles. The physician may also provide referrals for patients to appropriate facilities for certain conditions and

treatments and may help to train new physician staff and nurse practitioners.

Dentist

The public health dentist may perform primarily clinical work or engage in community educational, organizational, or governmental activities. Clinical work entails diagnosing and treating diseases and injuries of the teeth and mouth, extracting and filling teeth, constructing dentures and other dental appliances, and maintaining patient charts and histories.

The public health dentist also helps to determine the quality of dental health care in an assigned area and the dental needs of the community by engaging in the following activities: inspecting dental clinics; promoting the fluoridation of water supplies; conducting dental screening programs to identify those individuals who need dental services; providing instruction in oral hygiene to residents of state facilities and/or in local clinics; and giving talks and demonstrations on dental health to schools and civic groups.

As an administrator, a public health dentist may direct dental programs. This involves supervising dental health education, planning and conducting dental research, and recruiting other public health dentists to the health department.

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Public Health Nurse

A public health nurse is generally responsible for promoting the health and well-being of community residents through the provision of preventive, therapeutic, and follow-up services to patients in clinics, homes, schools, and other sites. The public health nurse serves a diverse population group and provides a variety of services, including: community advocacy, case management, outreach, referral, and counseling. To qualify for the position, one must be, at minimum, a licensed registered nurse.

The public health nurse views the entire community as a patient and considers individual problems as symptoms of a larger community problem. For example, if a mother delivers a low birthweight baby, the nurse will provide appropriate medical care for the infant, as well as try to identify the other socio-economic factors contributing to the low birth weight. If the low birth weight was a result of the mother's eating, drinking, or smoking habits, the nurse must develop ways to educate the mother, as well as the community, on the importance of early and comprehensive prenatal care.

The public health nurse uses a coordinated approach to provide care

that includes making home visits to assess patients' physical health, emotional well-being, and domestic environment. Although home visits are integral to public health nursing, this practice is separate from home health nursing. Home health nurses aid

patients who are homebound due to old age, chronic disease, or other illnesses.

The public health nurse makes home visits to provide the

most appropriate medical and counseling services to patients. For example, before a public health nurse provides a well-baby care plan, the nurse must assess whether the family has adequate food, electricity, and water to take care of the baby. If not, the nurse directs the patient to social services to obtain those services. Overall, the goal of public health nursing is to ensure that all patients have adequate resources to maintain a satisfactory quality of life.

Physician Assistant

The physician assistant (PA) in a local health agency has become an integral part of the changing health care system. Under the supervision of and in collaboration with licensed physicians, the PA provides a broad range of diagnostic and therapeutic medical services.

The cost of medical care for a woman whose breast cancer is diagnosed early is one-third to one-half of the cost if diagnosed later.

In most cases, the PA provides primary care to patients of all ages. The PA is trained to expand the capacity of primary care physicians by increasing access to basic medical care services, ensuring continuity of care, and managing health care costs. The PA is educated to provide complete patient assessment, including physical examinations, diagnosis of illnesses, establishment of treatment plans, and completion of minor surgery. The PA also provides patient education about health and wellness issues.

Nurse Practitioner

A nurse practitioner working in a local health agency is often responsible for providing medical treatment and primary care services, under the supervision of and in collaboration with physicians. In some situations, a nurse practitioner may practice independently. The nurse practitioner may provide health maintenance activities such as evaluation, early detection, and management of problems, as well as referrals. Clinical care entails assessing the physical and psycho-social status of patients and performing physical examinations.

The nurse practitioner also ensures that a continuum of care is being provided to patients by: developing care/treatment plans with patients; providing referrals; following up treatment plans to ensure continuity of care; and counseling patients concerning health care, diet, medication,

therapeutic treatments, and health maintenance.

Certified Nurse Midwife

A certified nurse midwife is a registered nurse with specialized training in caring for and managing healthy pregnant women, performing deliveries, and providing newborn care. The certified nurse midwife working in local health agency is affiliated with physicians who are available for consultation or referral as necessary. Examples of common functions of the certified nurse midwife include: gynecological examinations, assisting with childbirth, examining and providing care for newborns, providing assistance and education concerning breast and bottle feeding, and serving as an advisor on reproductive health and conception.

Environmental Specialist

The environmental specialist working in a local health department is responsible for performing surveys, inspections, and investigations to ensure compliance with environmental health laws and administrative rules. This may include: environmental lead inspection and abatement; assessing indoor air quality monitoring; water quality monitoring in fishing areas and shellfish sampling; food service inspections and general sanitation instructions; parks and swimming pool inspections for water quality and compliance with sanitation requirements; and day care centers and

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schools inspections to ensure compliance with requirements and guidelines. The environmental specialist may also inspect sewage and water systems, evaluate soil conditions, and provide services pertaining to rodent and insect control.

Statistician

The statistician in a local health department collects, tabulates, and analyzes data to be used for publications and statistical reports required by federal and state agencies. The statistician may also conduct surveys (by mail, telephone, and personal interviews) to obtain data for studies and may develop the questionnaires used in such studies. Such data are used in program policy development and assists in leveraging funding to address community health needs.

Epidemiologist

The public health epidemiologist is responsible for surveillance, investigation, reporting, and control of diseases and injuries. The epidemiologist may also establish and manage programs to identify, test, and treat other potential victims. Examples of condition addressed by the epidemiologist include typhus, AIDS, rubella, rabies, hepatitis, Reyes Syndrome, botulism, motor vehicle related-injuries, suicide, falls, Legionnaires's disease, lung cancer, and toxic shock syndrome.

The epidemiologist coordinates specialized disease prevention pro-

grams to give health assistance to those in areas of critical disease exposure. This professional also develops and maintains ongoing data banks of the characteristics and statistics of disease among population groups. Additionally, the epidemiologist develops policies and procedures to be followed in epidemiological investigations, animal quarantine, and statistical analyses.

Nutritionist/Dietician

The public health nutritionist provides technical and advisory services to local health agencies. In that capacity, nutritionist counsels patients in public health clinics about therapeutic diets and provides counseling to people with specific nutritional problems. The nutritionist also: provides information and advisory services to clinic staff, teachers, social workers, and community groups; conducts classes on nutrition for pregnant women, infants, and children; provides training for institutional food service personnel; and surveys and evaluates institutional food service operations.

The public health nutritionist also develops nutrition education materials and provides nutrition education programs in food preparation, consumer education, weight control, and related areas. Additionally, the nutritionist plans and conducts surveys to assess nutritional problems in geographical areas, using the results as the bases for educational and service

development and for evaluation of the changes in nutritional behavior of individuals or groups after participation in such programs.

Community Health Educator

The public health educator is usually based in the health department. He or she is responsible for working with health department staff, community agencies, professional groups, schools, and the general public in organizing and developing community health resources, disseminating health information materials, conducting promotional campaigns, and stimulating interest in the improvement of the health practices of the public. The public health educator also: conducts surveys to determine the attitudes and behaviors of individuals toward health problems; identifies community health resources and the leadership available to assist with health problems; establishes needs and goals for public health education programs; and trains local health department staff and volunteers in the methods, practices, and purposes of health education. The public health educator selects, prepares, and uses brochures, news articles, poster exhibits, and television, radio, and slide show scripts in organizing health education efforts. Public health educators also work in specialized programs, such as family planning and chronic disease control.

Outreach Worker/Case Coordinator

The public health outreach worker/case coordinator is responsible for informing clients about the availability of services, assisting clients in making and keeping appointments through provision of child care and transportation, assisting clients in applying for Medicaid and other public assistance programs, identifying potential participants and/or population areas where outreach efforts would be effective, conducting home visits (e.g., for the Special Supplemental Food Program for Women, Infants, and Children (WIC)), and organizing educational group activities.

Social Worker

The public health social worker works with children and adults in public health agencies and state facilities, such as hospitals and institutions for the developmentally disabled. The social worker conducts interviews with clients, families, teachers, ministers, social agencies, and other relevant sources to identify social, economic, emotional, health, and physical problems. The social worker also: determines need and eligibility for such services as Aid to Families with Dependent Children (AFDC), food stamps, day-care, and nursing home assistance; refers clients to appropriate programs; and assists clients in utilizing available community resources. The public health social worker

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investigates suspected cases of abuse; provides protective services for the abused or neglected; counsels families on proper child care; and coordinates with social agencies, hospitals, clinics and other community resources in attempting to meet the clients needs.

National Health Service Corps (NHSC)

The National Health Service Corps (NHSC) is a program of the federal Health Resources and Services Administration, Bureau of Primary Health Care, that assists in the development, recruitment, and retention of community-responsive, culturally competent primary care providers to serve people in health professional shortage areas. The NHSC places family practitioners, internists, OB/GYNs, certified nurse midwives, nurse practitioners, physician assistants, dentists, dental hygienists, clinical psychologists, social workers, and psychiatric nurses in jobs in these areas. Health professionals may participate in the NHSC as an obligated scholar, a loan repayment program participant, or a volunteer.

Obligated scholars contract with the NHSC while in training to provide service in an underserved area in return for payment of tuition, fees, and stipends. Loan repayment program participants contract with the NHSC upon completion of training to provide service in an underserved area. In return, they receive funds to retire qualifying educational loans. Volun-

teers serve in an underserved area under no obligation to the NHSC. That is, volunteers determine the length of service.

Resources

Opportunities in Public Health Careers, Pickett, George E., MD, Pickett, Terry W., National Textbook Company, 1988. The cost is \$11.95. To order, contact the Ordering Department, National Textbook Company, 4255 West Touhy Ave., Lincolnwood, IL 60646, (800) 323-4900.

For more information on the NHSC, contact the NHSC Recruitment Program Clearinghouse, (800) 221-9393, or (703) 734-6855.

7 INTERNSHIP OPPORTUNITIES

There are a number of internship opportunities available for students who are interested in integrating their health profession studies with an experience in public health. The following section provides descriptions of two such programs: the National Health Service Corps (NHSC) Health Promotion/Disease Prevention Project and the NHSC Fellowship of Primary Care Health Professionals.

The NHSC/HPDP Project

The NHSC Health Promotion/Disease Prevention Project (HPDP), funded by NHSC and administered by the American Medical Student Association (AMSA) Foundation, places health

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professions students in internships with public health agencies and community-based systems of care, including local health departments and federally qualified health centers (FQHCs).

An important component of each student placement is the completion of a project that benefits the local health care agency and the community it serves.

Preclinical medical and dental students spend 75 percent of their internship time completing health promotion/disease prevention projects. They shadow primary care providers six hours per week and spend the rest of their time learning about the agency, community needs, lifestyles of community members, and career options in the community-based system.

Preclinical students in nurse practitioner, physician assistant, and certified nurse midwifery programs may devote 20-40 percent of their placement time on service projects, with the remaining time spent learning about the community-based system.

Clinical level physician assistant, nurse practitioner, and certified nurse midwifery students provide direct

patient care for 16-30 hours per week under the supervision of their clinical preceptors.

Examples of valuable activities in addition to the actual project include: attending community board meetings; reading grant proposals; assisting in patient scheduling, attending staff meetings; conducting home visits; and

visiting nearby health and social service agencies, such as nursing homes, treatment programs, and prisons. NHSC/HPDP encourages students to get involved in community activities, espe-

cially if they are in an unfamiliar area.

Each health care agency receiving interns designates a site coordinator to interview students, orient them during the first week, and provide supervision and guidance throughout the project. Health educators, social workers, nutritionists, outreach coordinators, and administrators, as well as physicians, advanced practice nurses, physician assistants, and dentists have served as excellent coordinators.

NHSC/HPDP encourages students to shadow one person regularly throughout the placement to develop rapport; however, some students prefer to see a variety of provider styles and specialties.

Every dollar invested in the Women, Infants & Children nutrition program produces \$1.77 to \$3.13 in health-related Medicaid savings for newborns and their mothers in just the first 60 days after birth.

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Examples of Internships

The following are examples of student internships in local health departments and community and migrant health centers that were arranged through the NHSC/HPDP project.

Local Health Departments

“Teen Resource and Breast Cancer Screening Analysis” (eight weeks)
Westchester County Health Department, Hawthorne, New York

A second year medical student assisted in two tasks to aid the new adolescent health clinic:

- ▶ compiling a list of community agencies that provide services to adolescents in Westchester County, and
- ▶ ordering materials to be used in the clinic lobby (videos and pamphlets).

The student also gathered data to determine the effectiveness of a breast cancer screening initiative. One day per week, she shadowed a preceptor in either pediatrics or adolescent medicine.

“Prenatal Education Curriculum Development” (six weeks)
Tulsa City-County Health Department, Oklahoma City, Oklahoma

A medical student developed a Prenatal Group Education Teaching Manual for the maternity clinic. He first surveyed prenatal clients to

determine which topics should be included. He shadowed nurse practitioners in the Women’s Health Clinic and spent time with other staff (i.e., nutritionist, social workers, public health nurse, and administrators) to learn their perspectives about the community’s needs.

“Childhood Lead Poisoning Prevention Project” (seven weeks)
Petersburg Health Department, Petersburg, Virginia

Emphasizing primary prevention, a medical student developed a protocol for a pilot study of lead poisoning prevention in a neighborhood within the health department’s jurisdiction. The study will identify contaminated housing units. The student gathered existing health department data and conducted a literature search. He also assisted in writing a grant proposal for federal funds targeted at lead-based paint abatement. Shadowing occurred by rotating through various health department clinics.

“Lead Poisoning Prevention Project” (seven weeks)
New York City Department of Health, New York, New York

A medical student contacted all New York City hospitals that provide medical management of pediatric lead poisoning. A hospital referral list, including contacts and protocols at each hospital, was developed. During her first two weeks, the student accom-

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panied a case worker and sanitarian on home visits. She also shadowed a preceptor at a sexually transmitted disease clinic.

"Immunization Audit" (six weeks) Seattle-King County Department of Public Health, Seattle, Washington

A nurse practitioner student developed an immunization audit form, conducted an audit to determine the clinic's immunization rate, and mailed immunization information packets to 180 home day care centers throughout the city (the packets were developed by the previous student intern). The results of the audit were presented at a staff meeting and the audit form will be used in the future to determine if rates improve. The student spent between two and three days per week gaining clinical experience under the supervision of a nurse practitioner preceptors. Liability coverage was provided by the student's university plan.

"Sexually Transmitted Disease (STD) Education Project" (eight weeks) Suffolk County Health Department, Hauppauge, New York

A nurse practitioner student gathered up-to-date information about STD treatment and control and presented the information at three community health centers, a local prison, and a mandatory health department staff in-service. She assisted in developing a tracking system for gonorrhea cases

and accompanied the disease infection specialists on home interviews with people named as sexual contacts of syphilis and gonorrhea cases. The student was able to attend two conferences with her preceptor.

"Establishment of Dental Clinic" (eight weeks)

HRS Pasco County Public Health Unit, New Port Richey, Florida

A first year dental student prepared a proposal to more fully utilize the dental clinic at the Pasco County Public Health Unit. This involved conducting a county needs assessment, recruiting staff, and creating a budget. The proposal was presented, accepted, and will be implemented with revisions. A full-time dentist (NHSC scholar) was recruited to work with the administration to hire a dental assistant and hygienist. The student served as an excellent liaison to the local dental association and was able to collaborate with the association to air 90-second dental health promotion clips on local television, purchase dental education kits for second and third grade classrooms, and recruit retired dentists to volunteer their time at the health department clinic.

Federally Qualified Health Centers

"Language and Cultural Access Project" (eight weeks) Asian Health Services, Oakland, California

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The agency received a grant to develop curricula and training for interpreters throughout Alameda County. A medical student conducted several focus group discussions among providers, interpreters, and bilingual staff regarding the role of the interpreter and possible areas for interpreter training. The student compiled case studies and questions to guide discussions.

In addition, a survey to assess provider and interpreter attitudes and opinions was developed and distributed. The data collected will assist the agency in designing appropriate training for medical interpreters. The student spent two mornings per week in the Asian Health Services clinic and was allowed to observe case management meetings for at-risk prenatal patients.

"Teen Violence Prevention Project" (eight weeks) Freedom Center Medical Clinic, Chicago, Illinois

Through a unique summer work program, two medical students supervised and trained five high school students in interviewing and writing skills and computer literacy. The youth conducted oral histories of a wide variety of community members (prisoners, those in drug rehabilitation programs, businessmen, and clinic staff), transcribed the interviews, and wrote 1500-word essays for submission to an essay contest sponsored by a local bookstore.

The topic of the contest was "How to Prevent Violence in the African American Community." In addition, the youth decided to compile their essays and distribute them for a small donation. The funds were donated to their preceptor to fund medical students for the following summer. In addition to assisting the youth, the medical students visited Cook County Hospital and shadowed two internal medicine physicians.

"Trilingual Osteoporosis Video Project" (eight weeks) West Side Community Health Center, Saint Paul, Minnesota

A medical student produced an osteoporosis education video in English, Spanish, and Hmong. These videos will be shown at WIC clinics. The student had an undergraduate degree in Spanish and a Ph.D. in linguistics. She was able to conduct in-service educational programs for staff translators on medical translation and for medical professionals on interpreter utilization. Educational materials on caring for Asian refugee patients and cross-cultural competency were collected and distributed to staff physicians. The student shadowed primary care physicians 4-6 hours per week.

"Children's Arts for Prevention Program" (six weeks) Tuba City Indian Medical Center, Tuba City, Arizona

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A medical student developed and coordinated the Arts for Prevention Program. The student reserved space and equipment and collaborated with two local artists to guide 14 children in creating photos, drawings, and paintings reflecting health promotion messages. Artwork was matted and framed and will be exhibited at various community locations, including McDonald's. It was believed that adults in this community might be more receptive to health messages from their own children. A video of the children's artwork and scenes from the final art session will air on the local cable channel. In addition, local leaders were identified in hopes that the program would continue throughout the year. The student also shadowed a primary care doctor.

"Pediatric Immunization/Lead Poisoning Prevention Project" (eight weeks) Maple City Health Care Center, Goshen, Indiana

A medical student conducted a chart review to determine which pediatric patients were delinquent in their immunizations and/or lead screenings. He wrote and distributed a letter of notification informing parents of the importance of the procedures and how to schedule appointments at the clinic.

NHSC Fellowship of Primary Care Health Professionals

The Fellowship of Primary Health Care Professionals Program is funded by NHSC and operated by the Primary

Care Associations (PCAs) and Primary Care Offices (PCOs) in 33 states. This program provides educational opportunities in community-based primary health care systems for medical, nurse practitioner, physician assistant, resident, and other health professional students.

The focus of the fellowship is to build partnerships with national, state, and local organizations, such as health care, social service agencies, government, private foundations, academic health centers, professional associations, medical residency programs, and student groups. The NHSC is hopeful that this effort will provide a framework for the development of interdisciplinary teams of primary care health professionals to serve those most in need.

Program funds may be used to support student/resident stipends; preceptor, participant, and grant staff travel; housing allowances; costs associated with group meetings of network members; administrative costs; and salaries. Students must spend at least 80 percent of their time either in a health professional shortage area or medically underserved area.

Students interested in participating in the NHSC Fellowship student/resident programs must have completed at least one year of medical or dental school, or one year of training in a certified nurse practitioner, physician

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assistant, certified nurse-midwife, or mental health (psychiatry, psychology, psychiatric nursing, social work, or marriage and family therapy) program.

The following is a description of the student internship program in Maine which is arranged through the NHSC Fellowship of Primary Care Health Professionals Program.

"NHSC Fellowship Training Opportunities in Maine" (six to eight weeks), Manchester, Maine

In Maine, the NHSC Fellowship Training Program is administered by the Maine Ambulatory Care Coalition, the state's Primary Care Association, which provides support services to its 29 member C/MHCs and Indian health centers and programs serving migrant and homeless populations.

Training programs fulfill four main objectives:

- 1) to provide clinical experience;
- 2) to provide interdisciplinary team experience;
- 3) to provide community experience; and
- 4) to enhance cultural competency.

To accomplish these objectives, students work one-on-one with their clinical preceptors and also spend time with providers of other disciplines.

Students who are in their pre-clinical years complete a community health project for their site; students in clinical rotations work on a care management project.

In addition, a two-day mini-rotation is arranged for medical students at one of Maine's family practice residency programs during the training experience. Other activities, including workshops and teleconferences, are scheduled to focus on issues of interdisciplinary team training and cultural sensitivity.

Internship Information

(See Section 8 for related resources).

Cheryl Holleran, Project Officer, Fellowship of Primary Health Care Professionals Program, National Health Service Corps, U.S. Public Health Service, (301) 594-4150. Fellowship information can also be obtained by calling (800) 221-9393.

Nancy Dudley, M.A., Training and Recruitment Coordinator, Maine Ambulatory Care Coalition, P.O. Box 390, Manchester, ME 04351, (207) 621-0677.

Irene Hsu, MPH or Kathy Westpheling, MPH, American Medical Student Association, Health Promotion/Disease Prevention Project, (703) 620-6600.

8 Recommendations for Student Internships

Based on their work with the NHSC Health Promotion/Disease Prevention Project, AMSA staff offer a number of recommendations for mutually beneficial internship experiences. This advice is also relevant for other student placement efforts.

Above all, an open mind, willingness to be flexible, sense of self-direction, clear communication with the coordinator, and spirit of adventure are critical to a successful experience.

► **Communicate regularly with your coordinator.** During the initial meeting with your coordinator, jointly identify a project or topic, then develop a learning contract to clearly convey your expectations, learning objectives, and proposed activities during your placement (see attachment 1 for a sample contract). Follow the timeline outlined in your contract, and schedule regular meetings with your coordinator to evaluate your progress and review objectives.

► **Try to stay at least 6 weeks.** The first week is often spent on orientation. Interns need to account for the time it takes to conduct research, receive important information from other staff members, etc.

► **Hold realistic expectations for what can be accomplished during your placement.** Unrealistically high and rigid expectations often lead to disappointing experiences.

► **Complete a project that addresses an identified need of the site.** Be open to the needs of the site and community. You may have ideas for a great project, but one which would be of little use for this particular site. Instead, start with needs they have identified or assist in conducting a needs assessment.

► **Be sure that staff are available to continue your project after the internship concludes.** For example, a willing and interested staff person needs to be identified prior to the student's departure if the student has started an ongoing program.

► **Get to know the community.** During the first week, take a "windshield survey" of the surrounding community. Ask a community member (perhaps an employee of the health care agency) to give you a quick car ride through the community. They can show you the local teen hangout areas, homeless shelters, supermarkets, elementary schools, etc. In addition, you may be able to accompany a staff member on home visits (i.e., STD control, lead poisoning control, public health nursing, case management). Active participation in community activities such as a street festival or

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church services may help you to better understand the patient population and how to more effectively communicate with it.

► **Use local as well as national resources to complete your project.** Be aware of the resources that are around you at community-based organizations, hospitals, clinics, and universities. There are also national clearinghouses and toll-free hotlines that disseminate information for the public and health professionals. Try not to reinvent the wheel.

► **Learn about the roles of other staff members in the health department or C/MHC.** Spend some time with the social workers, nutritionists, community health educators, and other professionals outside of your own discipline. Schedule a 20-minute appointment and use some of the suggested questions for informational interviewing (see Attachment 2).

► **Learn about the funding and administration of the local health department or C/MHC.** Ask to see an organizational chart and grant proposal. Schedule an informational interview with the financial officer. Attend a community board meeting, if possible.

► **Be flexible and patient.** The staff may have priorities that are not compatible with your immediate priorities. Also, they may be aware of protocols

and politics that alter the course of your project.

Resources for Students and Preceptors

Community Connections: A Sourcebook for Local Community Health Projects, AMSA, 1993. The cost is \$4.00 for members and \$5.00 for non-members. To order, contact Mary Joe Lawrence, AMSA Publications, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 217. Request publication #020.

Cross-Cultural Health Work: What To Know Before You Go, AMSA, 1989. The cost is \$5.00 for members and \$7.00 for non-members. To order, contact Mary Joe Lawrence, AMSA Publications, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 217. Request publication #005.

Family Practice Residency Community/Migrant Health Center Linkage Manual, The University of Arizona College of Medicine, Tuscon, Arizona, 1992. Single, free copy available. To order, contact The American Academy of Family Physicians, 8880 Ward Parkway, Kansas City, Missouri 64114, (816) 333-9700, ext. 5208.

"Interdisciplinary Collaborative Teams in Primary Care: A Model Curriculum and Resource Guide," Grant, Richard, Center for Health Professions, January 1995. The cost is \$5.00. To order, send a check payable

to the "Center for Health Professions," 1388 Sutter Street, Suite 805, San Francisco, CA 94109.

National Health Service Corps Educational Program for Clinical and Community Issues in Primary Care (series of case-based teaching modules), developed by AMSA for NHSC. The series is free. For ordering information, contact Sandy Thomsen at AMSA, (703) 620-6600, ext. 250.

National Health Service Corps Health Promotion/Disease Prevention Orientation Manual for Site Coordinators and Preceptors, AMSA, 1994. Single, free copy available. To order, contact Vieng Rattanong at AMSA, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 216.

"National Health Service Corps Site Development Guidance Manual" (draft document), Davis, Jewel, National Health Service Corps. Single, free copy will be available upon publication. For more information, contact Vieng Rattanong at AMSA, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 216.

Primary Care Futures Project: Teaching in Community Health Centers, Workshop Manual, Massachusetts Statewide AHEC, May, 1993. To order, send a written request to: University of Massachusetts Medical Center, Office of Community Programs, 55 Lake Avenue North, Worcester, Massachusetts 01655.

"Primary Care Resource Guide: Generalist Physicians in Training (GPIT)" compiled by the GPIT Coordinating Committee for the AMSA Foundation, Fall 1994. Single, free copy available. To order, contact Martha Cockrell, AMSA, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 256.

Selecting a Community Responsive Residency, AMSA, 1994. Single, free copy available. To order, contact Sandy Thomsen, AMSA, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 250.

General Resources

Preventing Adolescent Violence: A Guide for Medical Students, AMSA, 1995. The cost is \$5.00 for members and \$7.00 for non-members. To order, contact Mary Joe Lawrence, AMSA Publications, 1902 Association Drive, Reston, VA 22091, (703) 620-6600, ext. 217. Request publication #048.

BIBLIOGRAPHY

Institute of Medicine, Committee on the Future of Public Health, *The Future of Public Health*, (National Academy Press, 1988).

Arizona Department of Health Services, *Public Health: Building Healthy Communities in Arizona* (Funded by Association of State and Territorial Health Officials Grant, 1995).

An Overview of Public Health and Related Career Opportunities

Public Health in America, Essential Public Health Services Work Group of the Core Public Health Function Steering Committee, 1994

Defining Primary Care: An Interim Report, Committee on the Future of Primary Care, 1995

1992-1993 National Profile of Local Health Departments, NACCHO, 1995

America's Health Centers: Value in Health Care: A Report on the Cost-Effectiveness of Health Centers, National Association of Community Health Centers, 1995.

Blueprint for a Healthy Community: A Guide for Local Health Departments, NACCHO, 1994

George E. Pickett, MD, Terry W. Pickett, *Opportunities in Public Health Careers*, National Textbook Company, 1988.

FOOTNOTES

¹Institute of Medicine, Committee on the Future of Public Health, *The Future of Public Health* (National Academy Press, 1988), 7.

²Information in this section is based on Institute of Medicine, Committee on the Future of Public Health, *The Future of Public Health* (National Academy Press, 1988).

³Arizona Department of Health Services, *Public Health: Building Healthy Communities in Arizona* (Funded by Association of State and Territorial Health Officials Grant, 1995).

⁴Institute of Medicine, Committee on the Future of Public Health, *The Future of Public Health* (National Academy Press, 1988), 7-8.

⁵Information in this section is based on the 1992-1993 *Naitonal Profile of Local Health Departments*, (NACCHO, 1995)

⁶Information in this section based on George E. Pickett, MD, Terry W. Pickett, *Opportunities in Public Health Careers* (National Textbook Company, 1988), and interviews with local health department employees.

⁷Institute of Medicine, Committee on the Future of Public Health, *The Future of Public Health* (National Academy Press, 1988), 185.

ATTACHMENT 1

National Health Service Corps Health Promotion/Disease Prevention Project

Conducting information interviews is an excellent strategy to learn about professional and personal issues relevant to those who work in medically underserved areas. People you may wish to interview include physicians, nurse practitioners, physician, nurse midwives, health educator, social worker, administrator and others at your site. We suggest asking for a 20 minute interview and them allowing the individual you are interviewing to determine if they can spend more time with you.

Suggested Questions

1. How did you choose your profession?
2. What do you enjoy most/least about your working here?
3. How did you come to work at this particular site?
4. What advice could you give me regarding a future career in community health?
5. What are important skills that I should gain in order to work at this type of site?
6. Do you have any suggestions for courses or rotations I should take?
7. What are your future career goals?
8. Would you say you work as an interdisciplinary team here or not? Why? What skills or characteristics are necessary to work as an interdisciplinary team?
9. Are you an NHSC provider with service obligations or do you know of some one else here at the clinic who is an NHSC provider? [If you are, why did you decide to become an NHSC provider?]

Suggested Managed Care Questions

1. Is this site involved in managed care?
2. What do you think will happen in the next 5 years with managed care?
3. What are the advantages and disadvantages of converting to Medicaid managed care?
4. What skills do I need to gain in order to survive in a managed care environment?
5. What impact would a capitated Medicaid program have on the collaboration with other staff (i.e. social workers, nutritionists, health educators, mental health workers).

An Overview of Public Health and Related Career Opportunities

Attachment 2

Source: National Health Service Corps Health Promotion/Disease Prevention Project, AMSA

Timeline/Action Plan — Clinical Students

Identified Problem: Lack of an organized procedure to handle rape cases.

Project: Develop a standard rape response protocol and a rape awareness program.

Activity	Week 1	2	3	4	5	6	7	8
1. Orientation								
2. Define Problem: <ul style="list-style-type: none"> Lack of an organized procedure to handle rape cases. 								
3. Gather Information: <ul style="list-style-type: none"> Services currently available for rape victims both in community and at health center. Current rape response protocol at local agencies. Current available rape awareness programs. 								
4. Set Objectives <ul style="list-style-type: none"> To improve reporting of rapes. To reduce rapes in service area by 10% within 5 years. 								
5. Complete Learning Contract.								
6. Determine method of Evaluation: <ul style="list-style-type: none"> Follow-up on patient recovery and opinion of center's rape response protocol 3 months after incident. Follow center's involvement in rape case prosecution, conviction, and patient's long-range treatment and recovery. Document center's involvement in communication awareness program. Conduct peer review of center's use of rape response protocol. 								
7. Select a Strategy: <ul style="list-style-type: none"> Research the problem and prevalence of rape in community. 								

Exploring Public Health Career Paths

Activity	Week 1	2	3	4	5	6	7	8
<ul style="list-style-type: none"> • Develop link between center and other rape organizations in the state. • Working with other community agencies, develop rape responses and community awareness program. • Develop and document rape responses protocol for use by center's doctors and ancillary staff. • Train staff on response protocol & awareness pgm. 								
8. Identify Resources: <ul style="list-style-type: none"> • Agencies in community which handle rape cases. • Current literature/research on rape. • Information on current rape awareness/educational program. • Specific staff members; to share information on current rape protocol, available to train on use of new protocol, available to carry out program evaluation. • NHSC HPDP staff - technical assistance. 								
9. Research the problem and prevalence of rape and center's current rape reporting protocol.								
10. Request information current rape awareness programs from various sources.								
11. Contact local agencies to discuss possible collaboration on awareness program.								
12. Develop awareness program in collaboration with other agencies.								
13. Develop rape reporting protocol.								
14. Train appropriate staff on use of reporting protocol.								
15. Train appropriate staff on awareness program including how to present information to target audience.								
16. Train appropriate staff on how to evaluate the project.								

An Overview of Public Health and Related Career Opportunities

Learning Contract - Clinical Students

National Health Service Corps Health Promotion/Disease Prevention Project

Student: _____ Community-Based System of Care: _____

Coordinator: _____ Location: _____

Preceptor: _____

Objectives

Proposed Activities

1. Health Promotion/Disease Prevention Project.

- a. Improve reporting of rapes.
- b. Reduce rapes in the service area.

Research the problem & prevalence of rape.
Develop link between center & rape organization in city & state.
Develop rape response & communication awareness program.
Train appropriate staff on rape awareness program, rape response protocol and evaluation method.

2. Health Care Delivery System & Clinical Training.

- a. Meet clinical objectives set forth by training institution.
- b. Learn health care delivery system at site.

See patients with preceptor and clinical procedures as a means of meeting clinical objectives.
Observe health care providers.

3. Health Care Financing & Administration.

- a. Learn how funds are obtained by site.
- b. Learn billing process at site.
- c. Increase knowledge of managed care and its impact on the site (if applicable).
- d. Learn about governance by comm. board

Read grant proposal.
Discuss site finances with administrators.
Observe patient billing process.
Attend community board meeting.
Meet with consumer board member.

4. Community Orientation.

- a. Increase understanding of how people live and work in the service area.
- b. Gain knowledge of other *Healthy People 2000* initiatives in the community.

Participate in informal discussions with patients.
Discuss patient lifestyle with site staff & rape agencies in service area.
Meet with local health officials to discuss *Healthy People 2000* initiatives.

5. Career Development/Life Planning.

- a. Learn how COPC is integrated into overall health care delivery at site.
- b. Learn about primary care and public health.

Observe preceptor and health care staff.
Discuss career options with preceptor

Timeline/Action Plan - Preclinical Students

Identified Problem: Increased rate of TB transmission among patient population.

Project: Assess and increase knowledge of tuberculosis among patient population.

Activity

Week 1 2 3 4 5 6 7 8

1. Orientation
2. Define problem:
 - Increase rate of TB among patient population.
3. Gather Information
 - Current rate of transmission.
 - General TB information.
4. Set objectives:
 - Assess patients' current knowledge of TB.
 - Increase patients' current knowledge of TB.
 - Develop list of suggestions to decrease rate of TB transmission.
5. Complete learning contract.
6. Determine method of evaluation:
 - Pre/Post tests.
 - Determine rate of transmission after one year.
7. Select a strategy:
 - Develop pre/post test on TB for patients.
 - Conduct educational session for patients.
 - Compile list of suggestions for decreasing TB transmission.
8. Identify resources:
 - Educational materials for distribution.
 - Specific members of staff to assist in pre/post test development.
 - Information for curriculum development.
 - Space to hold educational session.
 - NHSC HPDP staff - technical assistance.
9. Discuss pre/post test and curriculum with health care professional with expertise in TB.

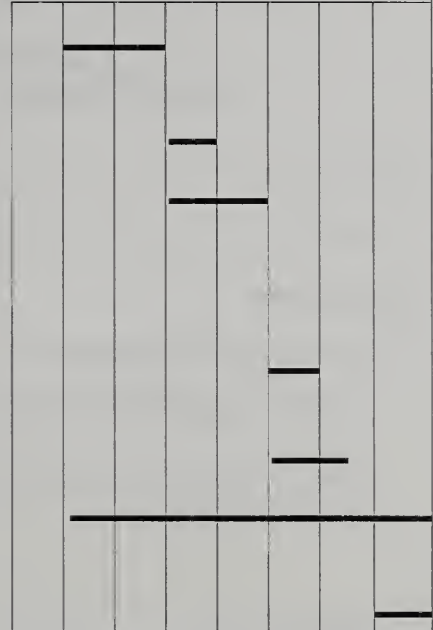
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An Overview of Public Health and Related Career Opportunities

Activity

Week 1 2 3 4 5 6 7 8

10. Write pre and post test. **Administer pretest to assess** current knowledge.
11. Tabulate and analyze results of pretest.
12. Develop curriculum for TB educational session based on needs determined from pretest analysis. Allow time for review / approval by designated staff.
13. Present educational session for TB to selected patients.
14. Administer and analyze post test.
15. Develop list of suggestions to decrease transmission of TB.
16. Present in-service to staff.



Learning Contract - Preclinical Students

National Health Service Corps Health Promotion/Disease Prevention Project

Student: _____ Community-Based System of Care: _____

Coordinator: _____ Location: _____

Preceptor: _____

Objectives

Proposed Activities

1. Health Promotion/Disease Prevention Project.

- | | |
|---|---|
| a. Assess pts. current knowledge of TB. | Develop & administer pre/post test on TB. |
| b. Increase patients' knowledge of TB. | Conduct TB educational sessions for patients based on identified needs. |
| c. Decrease rate of TB transmission among patient population. | Compile suggestions for ways to decrease TB transmission. |
| | Assist in implementation of suggestions. |
| | Present results to staff. |

2. Health Care Deliver System & Clinical Training.

- | | |
|---|--|
| a. Increase knowledge of health care delivery at health center. | Observe health care providers & staff. |
|---|--|

3. Health Care Financing & Administration.

- | | |
|---|---|
| a. Increase understanding of how a health center is financed. | Discuss finance of health center with administrators. |
| | Read grant proposal. |
| | Observe patient billing process. |
| b. Increase knowledge of managed care and its impact on the site (if applicable). | |
| c. Learn about governance by community board. | Attend community board meeting. |
| | Meet with consumer board member. |

4. Community Orientation.

- | | |
|---|---|
| a. Increase understanding of patients; their needs and lifestyle. | Attend community functions — church, fairs, etc. |
| | Participate in informal discussions with patients and staff. |
| b. Gain knowledge of other <i>Healthy People 2000</i> initiatives in community. | Meet with local health officer to discuss <i>Healthy People 2000</i> initiatives. |

5. Career Development/Life Planning

- | | |
|--|---|
| a. Broaden knowledge of career options. | Discuss career options with preceptor and site staff. |
| b. Increase understanding of role of provider serving underserved. | Observe preceptor and site staff. |



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